

combination by Nuttall], may be conspecific with *L. caurina* Piper". It is, consequently, worth noting that in the Gray Herbarium there are three plants of the original collection bearing Chamisso's own label. This collection, with the label, is shown in PLATE 1117, FIG. 1, the material also bearing Wiegand's identification as *L. convallarioides* and validation of the latter name by Hultén. Similar material from the herbarium of Jacques Gay is in the Lindley Herbarium at Kew, this marked by Gay "Chamisso misit Jan. 1829". These two specimens better displaying the broad lip are shown in FIG. 2.

TWO NEW NAMES IN *POPULUS*

ERNEST ROULEAU

A good geographical variety of *Populus balsamifera* L. is the tree that was known as *Populus balsamifera* var. *Michauxii* (Dode) Henry (*P. Tacamahacca* Mill. var. *Michauxii* (Dode) Farwell). It ranges from George River, Ungava, to the Thunder Bay District, Ontario, south to Newfoundland, Gaspé Peninsula, northern New England, northern New York and northern Michigan.

STOUT (Journ. N. Y. Bot. Gard. 30: 32. 1929) has claimed that *Populus candicans* Aiton represents the same variety and made the new combination *Populus Tacamahacca* var. *candicans* (Aiton) Stout in place of *P. Tacamahacca* var. *Michauxii*; the commonly cultivated Balm-of-Gilead being considered by him as a clone of this variety.

This variety is characterized by its cordate or subcordate leaves, very often strongly asymmetrical at the base, a little pubescent underneath along the veins, and by its slightly pubescent petioles.

If one goes back to DODE's description of *Populus Michauxii* (Bull. Soc. Hist. Nat. Autun, 18: 220, pl. 12, fig. 100. 1905; reprinted in Extr. Monogr. Inéd. *Populus* p. 62 et in Fedde, Rep. Spec. Nov. 3: 355. 1907), it is very surprising to find the following description:

100 F. tur. ovales-elliptiques, arrondies à la b., un peu en coeur à l'insertion du pétiole, acuminées; f. més.

sublancéolées, cunéiformes, un peu arrondies à la b., acuminées, subrhomboïdales; f. brach. elliptiques-deltoïdes, largement arrondies à la b., un peu en coeur à l'insertion du pétiole, aigües-acuminées; jeunes pétioles pubescents et jeunes feuilles ciliées, puis glabrescents; dents en scie peu profonde, peu apparentes; dessous des f. blanc, un peu roussâtre; turions un peu pubescents. **Pop. Michauxi.**

= *P. balsamifera* Michaux f., *Hist. Arb. for. Am. sept.* 1813 (non *Nouv. Duh.*, L. pro parte.)

Amérique du Nord. C**.

The only mention of cordate or subcordate leaf is in the "un peu en coeur à l'insertion du pétiole", both for the macroblasts and the brachyblasts; that is to say that the leaf is a little cordate at its junction with the petiole, although the general outline is oval-elliptic, rounded at the base. Moreover, DODE's figures do not represent any cordate or subcordate leaves. In addition, the synonym given by DODE (i. e. *Populus balsamifera* Michx. f., *Hist. Arb. For. Am. Sept.* 3: 306, 307, t. 13, fig. 1. 1813) is a good illustration of typical *Populus balsamifera* with ovate leaves. So, *Populus Michauxi* Dode must be reduced to the synonymy of *P. balsamifera* L.

It is then necessary to propose a new name for this plant as the name-bringing synonym does not represent the identity of the tree as understood by HENRY, FARWELL, SARGENT, REHDER and others. I propose to associate this variety with the name of Professor MERRITT LYNDON FERNALD who has very often collected this variety in Newfoundland, Gaspé and Maine.

POPULUS BALSAMIFERA L., var. **Fernaldiana**, nom. nov. *Populus balsamifera* var. *Michauxii* Henry, *Gard. Chron.*, ser. 3, 59: 230. 1916 (as to plant involved only); *Populus balsamifera* var. *candicans* Gray, *Man. Bot. N. U. S.* (ed. 2) 419. 1856 (pro parte, as to plant involved only); *Populus Tacamahacca* var. *Michauxii* Farwell, *RHODORA* 21: 101. 1919 (as to plant involved only); *Populus Tacamahacca* var. *candicans* Stout, *Journ. N. Y. Bot. Gard.* 30: 32. 1929 (pro parte, as to plant involved only).

In order to verify STOUT's statement that the Balm-of-Gilead, i. e. *Populus candicans* Ait., was the same as *P. balsamifera* var. *Fernaldiana*, or but a clone of it, I asked Dr. GEORGE TAYLOR of the British Museum for a photograph of the type-specimen of *Populus candicans* Aiton, which he very kindly sent to me. The

type-specimen of AITON'S species is but a macroblast of good straight *Populus balsamifera* so that AITON'S name has to be reduced to the synonymy of that species. Of course, the easiest way to identify this tree has been to match the leaves with those illustrated by MICHAUX F. who was the first to draw a figure of what he thought was the newly described *Populus candicans* Aiton without referring to the type-specimen.

There has been much discussion about the status of the Balm-of-Gilead, since it has been confused with *Populus balsamifera* var. *Fernaldiana*, has never been found in the wild state (though often freely escaping from cultivation and then, sterile) and that it is known only as a pistillate tree. I prefer to consider the Balm-of-Gilead as a hybrid, propagated from a single clone.

That the Balm-of-Gilead has a series of characters which makes it resemble *Populus balsamifera*, I admit. The under-surface of the leaves is rusty, the petioles are only slightly flattened, but these are the only characters that lead one into *Populus* § *Tacamahacca*. On the other hand, the crenate teeth of the leaves, the long petioles, the type of venation, the long-pedicelled female flowers and the cordate leaves tend to prove that there is some blood of § *Aegirus* in it.

The petioles covered with stiff fulvous hairs, the lower surface of the leaves also covered with hairs, seem to indicate that the other parent of this hybrid might have been *Populus deltoides* Marsh. var. *missouriensis* Henry. Young specimens of the last variety have the leaves and petioles with the same type of pubescence as in the hybrid. In the hybrid, this pubescence persists, whilst in *P. deltoides* var. *missouriensis*, it usually disappears but sometimes persists (*P. deltoides* var. *missouriensis* f. *pilosa* (Sarg.) Palmer & Steyermark). It is quite probable that this hybrid originated in North America and that it was later introduced into European gardens.

In order to prevent future confusion as to the application of the name of the Balm-of-Gilead (i. e. *Populus candicans* sensu Michx. f. et auct. plur., non Ait.), I propose a new name that will recall its popular name, i. e.

× **POPULUS gileadensis** stat. et nom. nov. (*balsamifera* × *deltoides* var. *missouriensis*). *Populus candicans* sensu Michx. f., Hist. Arb. For. Am. Sept. 3: 308, 309, t. 13, fig. 2. 1813 (as to

plant involved only, non Aiton, Hortus Kewensis 3: 406. 1789); *Populus balsamifera* var. *candicans* Gray, Man. Bot. N. U. S. (ed. 2) 419. 1856 (pro parte, as to plant involved only); *Aigeiros candicans* Nieuwl., Am. Midl. Nat. 3: 223. 1914 (as to plant involved only); *Populus Tacamahacca* var. *candicans* Stout, Journ. N. Y. Bot. Gard. 30: 32. 1929 (pro parte, as to plant involved only); *Populus Tacamahacca* sensu Moss, Cambr. Brit. Fl. 2: 13. 1914; sensu Schinz & Thellung, Viert. Naturf. Gesell. Zürich 60: 349. 1915; sensu Farwell, RHODORA 21: 101. 1919 (as to plant involved only), not Miller, Gard. Dict. (ed. 8), no. 6. 1768); *P. ontariensis* Desf. [Cat. Hort. Reg. Par. 1829] ex Loudon, Arbor. Frut. Brit. (ed. 1), 3: 1676. 1838 (in synonymy).

The name *Populus ontariensis* Desf. was never validly published and there is still doubt if it can be properly reduced to the synonymy of \times *P. gileadensis*, since the specific epithet tends to show that the original tree seen by DESFONTAINES might have been an indigenous tree.

Dealing with the taxonomy and nomenclature of *Populus* is not an easy task. Before a satisfactory treatment of the species of the genus can be worked out, good specimens of flowers (male and female) collected at various stages, together with leaves (both of the macroblasts and the brachyblasts) collected from the same tree are very badly needed.

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NOTES ON THE FLORA OF ONTARIO.

I. EPIPACTIS HELLEBORINE

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It is almost sixty years since the introduced orchid, the Broad-leaved Epipactis, *E. Helleborine* (L.) Crantz, was reported occurring near Toronto, Ontario, by Messrs. Otto and Ward White¹. This first Canadian record was in 1890, and since that time the observation of it has been considered interesting, but unworthy of serious comment.

During the past few years my interest in the plant has been increased by frequently seeing it in the field, and by the receipt of specimens for identification. An appeal to herbaria and many naturalists for specimens and information brought to me a num-